

CLAIMS

WHAT IS CLAIMED IS:

- 1 1. An apparatus for use in a cordless device, comprising:
2 an antenna component configured to couple to a radio transmitter, the antenna
3 component further configured for electromagnetic propagation of a signal
4 from the radio transmitter; and
5 a metallized membrane of a keyswitch matrix system, the metallized membrane
6 having a surface that comprises a first geometric shape printed with
7 conductive ink, the first geometric shape configured to couple with the
8 antenna component.
- 1 2. The apparatus of claim 1, wherein the first geometric shape printed on the metallized
2 membrane comprises a ground plane.
- 1 3. The apparatus of claim 1, wherein the antenna component is configured to form an
2 antenna loop.
- 1 4. The apparatus of claim 1, wherein the signal corresponds to a pressing of a key, the
2 signal being generated in the keyswitch matrix system by conductive traces electrically
3 coupling upon the pressing of the key.
- 1 5. The apparatus of claim 1, wherein the metallized membrane is one of a top, a middle,
2 or a bottom membrane in a three layer keyswitch matrix system.
- 1 6. The apparatus of claim 1, further comprising a second metallized membrane having a
2 second geometric shape printed with conductive ink, the second geometric shape coupled to
3 the first geometric shape and configured to form at least part of an antenna.

1 7. The apparatus of claim 1, wherein the cordless device is one of a keyboard, a mouse,
2 a digital camera, a joystick, or a game pad.

1 8. An apparatus for use in a cordless device, comprising:
2 means for propagating electromagnetic energy through coupling to a radio
3 transmitter; and
4 means for electrically grounding configured to couple to a radio frequency
5 transmission system, the means for electrically grounding printed on a
6 membrane of a keyswitch matrix system and coupled to the means for
7 propagating.

1 9. The apparatus of claim 8, wherein the means for propagating is configured to from a
2 loop antenna.

1 10. The apparatus of claim 8, wherein the radio frequency transmission system comprises
2 one of a transmitter, a receiver, or a transceiver.

1 11. The apparatus of claim 8, wherein the keyswitch matrix system is within one of a
2 keyboard, a mouse, a digital camera, a joystick, or a game pad.

1 12. A method of manufacturing antenna components on a membrane keyswitch assembly
2 having a plurality of membranes, the method comprising:
3 printing with an electrically conductive printing substance a geometric shape on a
4 surface of one of the plurality of membranes, the geometric shape forming a
5 ground plane; and
6 electrically coupling the printed geometric shape with one or more antenna
7 components.

1 13. The method of claim 12, wherein the printing includes one of screen printing, ink jet
2 printing, and laser printing.

1 14. The method of claim 12, wherein the electrically conductive printing substance is a
2 metallic ink.

1 15. The method of claim 12, wherein the geometric shape is one of a, grid, or a
2 continuous polygonal surface.